

## **FATTY ACID METABOLISM IN *RHODNIUS PROLIXUS* INFECTED WITH *TRYPANOSOMA CRUZI***

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*Trypanosoma cruzi* is hemoflagellate that employs a wide variety of mammalian hosts and hematophogus insects in its life cycle. In humans, *T. cruzi* is found as both an intracellular form, the amastigote, and as a trypomastigote form in the blood. Under natural condition this parasite is transmitted to the vertebrate host by triatomine insects. In the vector the parasite reproduces asexually.

The *T. cruzi* development is confined to the insect gut. We have previously demonstrated that *Rhodnius* midgut is the main organ in fatty acid absorption. Now we are studying the presence and variation of expression of the fatty acid binding-protein (FABP) in *Rhodnius*' midgut infected with *T. cruzi*. Additionally, we investigate the possibility of the infection with *T. cruzi* affect other tissues, like ovary and fat body.

In order to investigate the expression of FABP, adult females were fed with blood of rabbits containing *T. cruzi*. In different days after feeding, five insects were dissected and RNA was extracted. A real time PCR was made and statistic analysis using ANOVA test.

The expression of FABP is 7 times higher in the midgut infected with *T. cruzi* in the first day after feeding. In the other organs, we also observed a variation in the expression; in the ovary, the expression was 4 times higher but in the fat body was 5 times lower in comparison with the non-infected tissues. Also, preliminary studies showed a decrease in the number of eggs when the insects were infected. The present results suggest that *T. cruzi* is able to modulate the lipid metabolism in different tissues of the insect even though it doesn't reach the hemolymph.

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